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THESIS

THE ORINCON CONTRACT: A CASE STUDY
OF SERVICE CONTRACTING

by

Jeffrey T. Bailey

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The ORINCON Contract: A Case Study of Service Contracting

by

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ABSTRACT

Contracting for services within the U.S. Government is full of difficult challenges that face the Contracting Officer on a daily basis. Many problems that develop during contract performance can be avoided through proper planning in the initial stages of the contract cycle. This thesis assesses a Marine Corps Technical Services contract performed at the Marine Corps Tactical Systems Support Activity, Camp Pendleton, California. The analysis focuses on various phases of the contract cycle and the problems encountered during the performance of the contract.

A brief history of contracting for services within the U.S. Government is presented, the preparation of the service contract Statement of Work is explored, and a background on the Government Agencies involved with the contract is also provided. The conclusions yield that the post-award problems were a direct result of an insufficiently prepared Statement of Work, resulting in a poorly written contract, and an insufficient administering of the contract. Recommendations concerning these issues are then addressed.

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I. INTRODUCTION

A. GENERAL COMMENTS

Contracting out for services is an integral part of conducting business in the Department of Defense today. According to the Director of the Office of Federal Procurement Policy (OFPP) the Government spends approximately $87 billion a year on service contracting [Ref. 1:p. 47].

Just as with contracts for material/hardware, the service contract can have its fair share of contract related problems. Difficulties experienced during the post-award phase usually develop from problems associated with the pre-solicitation phase. Many of these problems can be avoided by employing enough foresight to plan properly in the early stages of the contract cycle. However, not all problems can be avoided through proper planning alone. For example, if one conducts a thorough and conscientious requirements determination process, and then fails to accurately incorporate these requirements into the Statement of Work (SOW), the drafter has nullified the effort spent on planning. Additionally, since the SOW is the primary document from which the service contract is drawn, it would be difficult if not impossible to avoid problems resulting from a poorly written contract. Combine this situation with lack of proper guidance during contract administration, and one has the potential for abuse.

According to the OFPP, common problems found with service contracts result from:

* Unnecessarily vague statements of work, which increase costs or make it difficult to control costs;
* Insufficient use of fixed price and incentive fee pricing arrangements for repetitive requirements, resulting in increased costs and inadequate incentive to improve performance; and
* Nonexistent or inadequate contract administration plans which lead to unauthorized commitments by the Government and delayed contract completion. [Ref. 2:p. 1]

This thesis is somewhat controversial, in that it involves a case study performed on a service contract that was subject to an investigation by the Marine Corps. The investigation was a product of several "HOTLINE" calls and a letter to a U.S. Congressional Representative concerning the contract. Therefore, certain names will not be associated with positions held, due to the possible impact that it may have on pending appeals.

B. OBJECTIVE OF THE RESEARCH

The objective of this research is to perform a comprehensive study on an existing, near term, technical service support contract within the Marine Corps, in order to ascertain the problems associated with the contract and ultimately develop "lessons learned" for consideration when planning for contracts of this nature. Although many service contracts share common problems, this case study may provide lessons learned on problems unique to the particular contract studied which may not apply elsewhere.

C. SCOPE

This thesis is a case study of the ORINCON technical service contract performed at the Marine Corps Tactical Systems Support Activity (MCTSSA), Camp Pendleton, California. This contract is one of three performed at MCTSSA and was selected for study by the researcher due to it being the most complete of the three. The study focuses on all phases of the contract cycle beginning with the requirements determination phase and ending with contract administration. The contract had been extended on a monthly basis to allow time for recompetition, therefore "Contract Closeout" was not considered as an area for study.

D. RESEARCH QUESTIONS

1. Primary Research Question

What were the principal problems experienced during the performance of the ORINCON service contract and how might these problems be avoided in future service contracts?

2. Subsidiary Thesis Questions

a. What is a Services Statement of Work and how is it prepared?

b. What were the requirements, who determined them and how were they developed for this contract?

c. What was the overall plan (including milestones) for this contract and to what extent did actual execution of the contract meet this plan?

d. How effectively were modifications implemented on this contract?

e. What changes could be made to future solicitations for services contracts to enhance effectiveness?

E. METHODOLOGY

Preliminary research included an in-depth analysis of the contract case file including the Request For Proposal (RFP) with Statement of Work (SOW), Pre and Post Business Memorandums, the contract itself, contract modifications, and memorandums to the record pertaining to the administration of the contract. In addition, existing Government regulations, orders, instructions, and policy guidance letters, were researched.

Fact-finding sessions and interviews with individuals directly involved with the contract were conducted. In addition, a questionnaire was used as an interview tool where it was determined that there was insufficient time available for a complete response. The questionnaire was also useful where the person interviewed wanted to remain anonymous.

F. DEFINITIONS

The following terms and definitions are applicable to concepts used in this study:

1. Commercial Activities (CA)

A function either contracted out or performed by a Government Activity that provides a service or product that

could be obtained from a private source [Ref. 3:p. 9]. A Commercial Activity must:

> ... be separable from other functions in order to be suitable for performance either in-house or by contract, and a regularly scheduled activity of short duration associated with support of a particular project. [Ref. 4:pp. 1-2]

2. Government Function

A function so closely related to the public interest that it must be performed by Government employees.

3. Statement of Work (SOW)

A document that describes accurately the essential and technical requirements for items, materials or services including the standards used to determine whether the requirements have been met. [Ref. 5:p. 4] The SOW describes the effort required of the contractor and addresses peripheral issues such as describing the data that the contractor must deliver to the Government. The SOW is the principal document from which the contract is drawn.

4. Personal Services Contract

> A personal services contract is characterized by the employer-employee relationship it creates between the Government and the contractor's personnel. The Government is normally required to obtain its employees by direct hire under competitive appointment or other procedures required by the civil service laws. Obtaining personal services by contract, rather than by direct hire, circumvents those laws unless Congress has specifically authorized acquisition of the services by contract. [Ref. 6:p. 37-1]

5. Technical Service Contract

A service contract where the contractor is providing technical support such as software development, engineering

support, etc., as opposed to less technical oriented services such as food, janitorial, fire protection or security services.

6. 100% Set-Aside

This is a term used to describe a contract that has been totally set aside for award to small businesses.

7. Government Furnished Property

All property owned by or leased to the Government or acquired by the Government under the terms of the contract. [Ref. 6:p. 45-1]

8. Contractor-acquired Property

Property procured or otherwise provided by the contractor for the performance of a contract, title to which is vested in the Government. [Ref. 6:p. 45-1]

9. Job Analysis

The act of looking at a job as it is being done in-house or by a contractor to determine what actually results. Job analysis looks at organization, workload, performance values, and resources. [Ref. 5:p. 2]

10. Surveillance Plan

An organized written document used for quality assurance surveillance. The document contains sampling guides, checklists, and decision tables. [Ref. 5:p. 4]

11. Tree Diagram

A visual representation of the major functions performed by a system which shows logical parts and subparts. [Ref. 5:p. 4]

A visual representation of the major functions performed by a system which shows logical parts and subparts. [Ref. 5:p. 4]

G. THESIS ORGANIZATION

There are six chapters in this thesis. These chapters are structured such that the reader can logically follow the development of the technical service contract and its associated problems, beginning with the requirements determination phase, following through to contract administration.

Chapter II presents a brief background on contracting for goods and services within the U.S. Government. In addition, the Statement of Work is defined and guidelines for constructing the SOW are presented.

Chapter III introduces the Government activities involved with the development and administration of the contract. Specifically addressed are:

1. MCTSSA's background and their relationship to higher headquarters and the project manager.
2. The supported project, Unit Level Circuit Switch (ULCS).
3. The PCO, ACO, and the COTR.

Chapter IV contains an evolution of the ORINCON contract.

Chapter V presents the identification and analysis of the problems with interpretations from various parties; and

Chapter VI contains the researcher's conclusions and recommendations for future contracts of this nature.

II. BACKGROUND ON SERVICE CONTRACTING

A. HISTORY

Since the ending of the Second World War the amount of contracting for goods and services within the United States has increased significantly. There has been concern over Government competition with the private sector in providing these goods and services which dates back to the 1930's. A special committee from the House of Representatives (HoR) reviewed the current situation in 1932 and reported their findings relative to the competition issue. The committee reported that many of the activities the Government performed were of a commercial or industrial nature and that they should be terminated. In addition, the committee recommended that a permanent committee be established to control competition with private industry. Specifically, the report of the HoR committee recommended that:

> . . . the heads of the several departments of Government be directed to order immediate investigation of any activities competitive with private business carried on by their representative departments, and report to Congress their conclusions as to their effectiveness from the standpoint of cost, economy, and public policy, to the end that there may be liquidation of all such bureaus, subdivisions or agencies under their control competing with private trade, commerce, finance, industry, or the professions, the operations of which are not in the public interest. [Ref. 7]

The concern over the Government competing with private industry did not receive Executive Agency support until 1954

when President Eisenhower first attempted to establish a Government policy of placing reliance on the private sector for the supply of goods and services. Technology produced by the American private sector was state of the art, so it was sound policy to have agencies rely on private industry to produce the same results for equipment and services used by the Federal Government. In addition, President Eisenhower felt that in most circumstances, private industry was able to produce more efficiently than the Government. This policy was formally promulgated by the Bureau of the Budget (BOB) in their Bulletin 55-4, the first of several bulletins on the subject. The policy stated:

> It is the general policy of the administration that the Federal Government will not start or carry on any commercial activity to provide a service or product for its own use if such a product or service can be procured from private enterprise through ordinary business channels.
>
> Exceptions to this policy should be made by the head of an agency only where it is clearly demonstrated in each case that it is not in the public interest to procure such product or service from private enterprise. [Ref. 8:para. 2]

This newly stated policy compelled all agencies and departments within the Federal Government to assess their own operations, as well as their capabilities, to determine if any commercial or industrial activities that were currently being performed should be contracted out or maintained in-house. Additional guidance was provided by the BOB (Bulletin 57-7,1957) pertaining to the initiation, evaluating, and the ending of Federal Government commercial activities. Once

again the content of this bulletin reflected the policy of contracting with the commercial sector for goods and services. However, there were exceptions to this policy, that were not published until 1959.

In September, 1959, the BOB published another bulletin (60-2) which provided certain exceptions to the policy of relying on the commercial sector. Referring to inherently Governmental functions, there were some circumstances which prohibited the Government from contracting out certain activities. The following exceptions apply:

1. Activities that involve National Security.
2. Activities that would obviously cost more to contract out.
3. Activities that would be clearly unfeasible due to administrative, mission, or availability reasons.

This bulletin further mandated that cost comparisons be conducted to preclude procuring services from the private sector, where overall cost to the Government would be higher than if the function was performed in-house.

The language in Bulletin 60-2, used in describing the above exceptions, was vague and allowed subjective interpretation. In 1966 the Office of Management and Budget (OMB) issued OMB Circular A-76 that clarified the intentions of the policy makers. This new directive stated that:

> The guidelines in this circular are the furtherance of the government's general policy of relying on the private enterprise system to supply its needs . . . in some instances, however it is in the National interest for the Government to provide directly the products and services it uses. [Ref. 9:para. 2]

Clarification was provided on what circumstances warranted the providing of goods and services by a Government agency. These conditions were:

a. Procurement of a product or service from a commercial source would disrupt or materially delay an agency's program.

b. It is necessary for the Government to conduct a commercial or industrial activity for purposes of combat support or for individual and unit training of military personnel or to maintain or strengthen mobilization readiness.

c. A satisfactory commercial source is not available and cannot be developed in time to provide a product or service when it is needed.

d. The product is available from another federal agency.

e. Procurement of the product or service from a commercial source will result in higher cost to the Government. [Ref. 9]

Despite this clarification, there were agencies that criticized A-76 as ineffective, and that it only created needless controversy and concern. Implementation of A-76 was delayed due to resistance by departments within the executive branch. In addition, there existed a lack of incentives to comply. This led to a comprehensive review of the A-76 circular in 1977, and on March 29, 1979, a new edition of the circular was issued. Continuous emphasis was placed on cost issues and price related exceptions. OMB published a cost comparison handbook which became "Supplement No.1 to OMB Circular No. A-76: Policies for Acquiring Commercial or Industrial Products and Services Needed by the Government." The handbook reported that "Circular A-76 guidelines were too

general to achieve desirable uniformity and were insufficient as a basis for comprehensive cost studies." [Ref. 10:Ch. 1.c] The purpose of this handbook is as follows:

> . . . to provide detailed instructions for developing a comprehensive and valid comparison of the estimated cost to the Government of acquiring a product or service by contract and of providing it with in-house Government resources. This Handbook is intended to establish consistency, assurance that all substantive factors are considered when making cost comparisons, and a desirable level of uniformity among agencies in comparative cost analysis. [Ref. 10:Ch. 1.b]

Emphasis on the commitment to reduce costs and not infringe upon private enterprise was continued through the years during the Reagan Presidency. Beginning in 1981, the Director of OMB initiated yet another analysis, this time reviewing cost comparison methodology with an objective to streamline it and make it more efficient. On August 4, 1983, another supplement was issued and subtitled: "Performance of Commercial Activities." This supplement reflected the changes made to clarify the procedures and streamline the methodology. The supplement was divided into four parts: Part I - Policy Implementation; Part II- Writing Performance Work Statements; Part III- Management Study Guide; and Part IV - Cost Comparison Handbook (which superseded the earlier version). Once published, agencies were mandated to comply with all elements of the new supplement. As the 1980s progressed, OMB has maintained the Circular by issuing Transmittal Memorandums updating information on conducting cost comparisons.

The emphasis to rely on the private sector for goods and services continued. Former President Reagan expressed his support for policies that increased reliance on the private sector. In the latter half of his term, it was more practical to contract out for services than to try to increase the DoD manpower level where ceilings on the number of personnel are determined by Congress.

B. THE SIGNIFICANCE OF THE SOW AND HOW IT SHOULD BE DEVELOPED

Services are defined as the performance of identifiable tasks, rather than the delivery of a particular product or end item [Ref. 11:p. 1]. In order for the Government to receive the type and quality of service that is desired, there must be a means for indicating this in the contract. The SOW is the tool that defines this requirement. Therefore, developing the SOW is an integral part of contracting for services because the SOW becomes the foundation of the contractual document itself.

The acquisition of services for technical support requires a different approach to contracting than hardware, the primary difference being the SOW. Therefore, it is important that the proper amount of effort be expended in preparing the SOW. A fine line exists between what should and what should not be incorporated in the SOW. It is often a difficult task to determine where this fine line exists. In solving this problem, the drafter should focus on **what** work should be

performed and not **how** to perform the work. Caution must be taken to ensure that the SOW does not appear vague to either the Government or the contractor. A poorly written SOW provides the possibility of misinterpretation that can lead to difficulties during contract administration. In addition, the SOW must be understood by all parties. If not, many problems can arise concerning cost, quality, and other post-award problems.

SOW preparation is separated into three phases. These are:

1. Job Analysis
2. Writing the SOW
3. Writing the Surveillance Plan [Ref. 5:p. 17]

The first phase is called **Job Analysis**. It is during this phase that the analyst determines the performance required by the contractor by proceeding through a step-by-step process. This process enables the analyst to gather all of the essential information needed to write a performance oriented SOW. It also helps to establish the baseline that will enable the Government to determine the quality of the contractor's output service. [Ref. 5:p. 17]

There are eight steps to the Job Analysis process. These are:

Step 1. Organization. At this point the particular service function is analyzed to observe how it is organized and what kind of service is actually provided. This organizational analysis provides the framework for determining what

is normally accomplished by the organization. [Ref. 5:p. 17]

Step 2. Tree Diagram. Once the organizational analysis is complete, the analyst must combine the individual services together to present a logical flow of activities similar to a Work Breakdown Structure (WBS). The tool used for this is called the tree diagram. The tree diagram resembles a standard organizational chart, except that it shows each task that happens rather than who performs the task. [Ref. 5:p. 17]

Step 3. Activity Analysis. Each box in the tree diagram is separately analyzed to define the outputs of the individual processes. The analysis consists of three major sections: input, work and output. [Ref. 5:p. 20]

Step 4. Classification. By conducting the preceding steps, the analyst becomes familiar with the total job, but not all of the sub-jobs or tasks will be included in the SOW. It is during this step that the analyst works with program management to decide which jobs will be included. No further work will be required on those tasks not included in the SOW. [Ref. 5:p. 20]

Step 5. Data Gathering. During this step, **workload** data and **resource** data are required on the services that will be contracted out. Workload data are that information on how often output services are provided. Historical information is modified with any projected changes to reach an estimated workload. Resources needed to perform the work are then

calculated. These resources fall into one of the following subcategories: personnel, facilities, equipment, or material. [Ref. 5:p. 22]

Step 6. Performance Analysis. Performance values are assigned for each of the services to be performed. These values have three components: The first is the **performance indicator** which is a certain measurable characteristic of the service. The second component is the **standard** value associated with the indicator while the third component is the **Acceptable Quality Level (AQL)** which is expressed as a percentage. The AQL is the maximum deviation level from the standard, realizing that occasional failures will occur [Ref. 5:p. 26]. However, the current focus has been on replacing the standard of accepting certain levels of deviation, by applying a concept known as **Statistical Process Control (SPC).** SPC concentrates on the eventual elimination of all failures through continuous improvement of the processes.

Step 7. Governing Directives. Various Government directives or instructions that apply to the services to be provided are listed here. The goal is to minimize the number of directives listed, and to classify them as either mandatory or optional. [Ref. 12:p. 23]

Step 8. Deduct Analysis. If the Government does not receive the service according to the contract, the contractor is not paid. It is during this final step that the decision on how much to deduct is determined. "The amount deducted

must represent as nearly as possible the cost of the service foregone." [Ref. 5:p. 32] The analyst therefore prepares an estimate of the contractor's cost for each service and expresses them as a percentage of the total contract cost. "If the work is not done satisfactorily, the value of the work can be withheld." [Ref. 12:p. 24]

Phase two of the SOW preparation is called the **Writing Phase**. If a detailed job analysis was performed this should make writing the SOW relatively easy. To ensure a smooth writing process, an outline must be developed to provide structure for the document. The major sections that provide the basis for the outline are listed as follows:

* General. This section provides a broad overview to the SOW.
* Definitions. This section includes all special terms and phrases used in the SOW and will help eliminate misunderstandings.
* Government -Furnished Property and Services. Any property that the Government provides the contractor is identified here.
* Contractor Furnished Items. Here the analyst describes material and equipment that the contractor must provide.
* Specific Tasks. The work done during the Job Analysis phase makes its way into this section.
* Applicable Technical Orders.
* Technical exhibits. [Ref. 5:pp. 35-36]

The style and language used in writing a SOW are the analyst's key to avoiding ambiguity and misinterpretation. The analyst must take technical information and word it in such a fashion that will include all essential information yet

remain in the simplest form. In addition, the analyst must use language that permits readability and is clear to all who should read the document. As would be imagined, this comes only with experience, therefore, as the Procuring Contracting Officer at Camp Pendleton states "it is wise to have second person reviews by other personnel within the drafter's organization to check for the obvious and not so obvious." [Ref. 13]

The third phase, writing the **Surveillance Plan**, is designed to ensure that the Government maintains an active role in contract management through a systematic contract administration procedure. The goal of this plan is to determine if the contractor is meeting the requirements of the contract, in terms of quality and quantity.

There are three steps involved in the development of the Surveillance Plan. These are:

1. Identify key performance indicators
2. Identify information sources, and
3. Develop tools to facilitate measurement.

While the surveillance plan deals primarily with quality related factors, it could also include any number of procedural checks that would aid in the administration of the contract, thus ensuring proper performance of the contractor.

III. THE GOVERNMENT ACTIVITIES AND THEIR REQUIREMENT FOR THIS SERVICE CONTRACT

This chapter introduces the Government agencies and their specific responsibilities, in order to give the reader the background to fully appreciate the requirement for the contract, and its associated problems.

A. MARINE CORPS RESEARCH, DEVELOPMENT AND ACQUISITION COMMAND (MCRDAC)

MCRDAC is a relatively new command that was established by the Commandant of the Marine Corps on 18 November 1987. Prior to that time there existed a complicated process for determinating requirements within the Marine Corps that involved staffing among a number of different Commands and Departments at Headquarters, in Washington, DC. This resulted in lengthy program initiation and produced a forced consensus, rather than a focused response to the needs of the Commanders within the Marine Corps. In addition, there was an absence of clearly defined lines of authority and responsibility for systems acquisition. Realizing that there were clear inefficiencies in the organizations responsible for the acquisition process, General Gray set out to streamline the system in order to accomplish one of his top goals, which was to get the best equipment into the hands of Marines in the shortest possible time. To improve the situation he directed the establishment of two major field Commands from existing

assets, one of which was MCRDAC. [The other Command created, Marine Corps Combat Development Command (MCCDC) is responsible for, among other things, developing the various requirements for submission to MCRDAC]. By establishing MCRDAC the Commandant created a single organization accountable for all tactical systems acquisition. MCRDAC incorporated personnel from the Marine Corps Development and Education Command (MCDEC), Material Division, Installations and Logistics Department, Headquarters Marine Corps and job billets from other activities previously involved in acquisition matters.

The mission of MCRDAC, simply stated, involves taking a validated requirement for ground combat equipment and turning it into reality. This is done by researching existing technologies. If the technology exists to satisfy the requirement, then MCRDAC would procure. If it did not exist then MCRDAC would develop it.

Since the creation of MCRDAC in 1987, the Marine Corps has found ways to further streamline its newest Command. This resulted in additional organizational changes. The current organizational structure of MCRDAC is identified in Figure 1.

B. THE PROGRAM MANAGER (PM)

As the CG, MCCDC acts as the Commandant's agent in developing requirements, the CG, MCRDAC acts as the agent in acquiring the systems that fulfill those requirements. The person responsible for directing those efforts is the Program

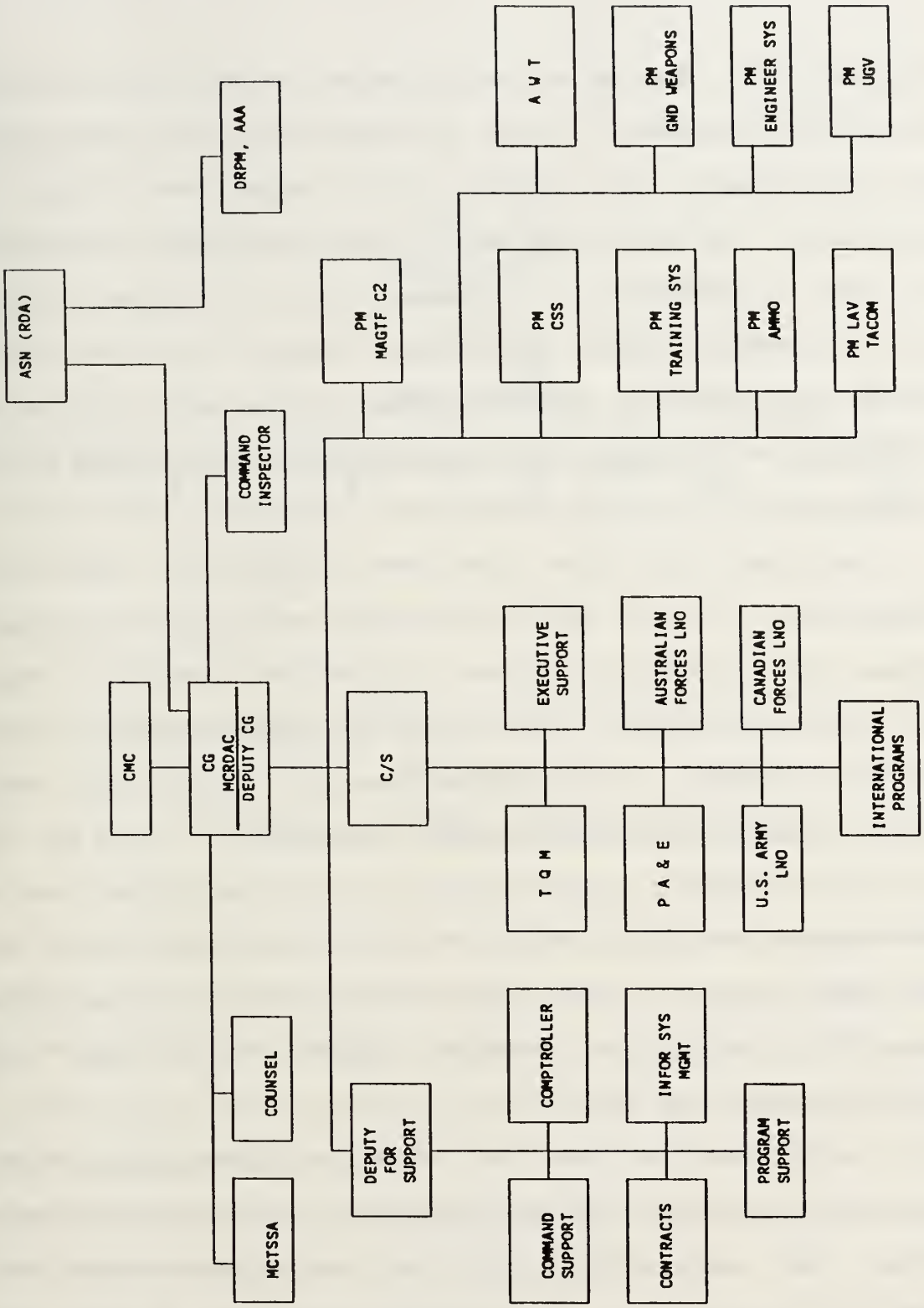

Figure 1

Marine Corps Research, Development, and Acquisition Command

Manager (PM). The PM is the principal of the entire system acquisition process. The PM is responsible for transforming the requirement from concept to an operational piece of equipment. The PM has four major responsibilities, these are: 1) Cost, 2) Schedule, 3) Performance, and 4) Supportability. In the broadest sense, the PM must manage a program within budget and schedule, ensure a weapon system will perform as intended, and is logistically supportable upon fielding to the Fleet.

Consistent with the Goldwater-Nichols Act, MCRDAC was reorganized to allow for no more than two reporting layers between the PM and the Defense Acquisition Executive (DAE). The PM responsible for developing the requirements for this service contract is the PM, Marine Air Ground Task Force (MAGTF) Command and Control (C2). (See Fig. 1) This PM, one of eight at MCRDAC, reports directly to the CG, MCRDAC, who is the Program Executive Officer (PEO) for the Marine Corps. The PEO then reports to the Commandant [the Service Acquisition Executive (SAE)], who in turn, reports to the DAE, thus abiding by the G-N Act.

The PM, MAGTF C2 has five Deputy Project Managers (DPM) under his cognizance who are responsible for various systems under their control, Fig. 2. The DPM responsible for the project supported by the ORINCON contract is the DPM, Communication/Navigation Systems (Comm/Nav).

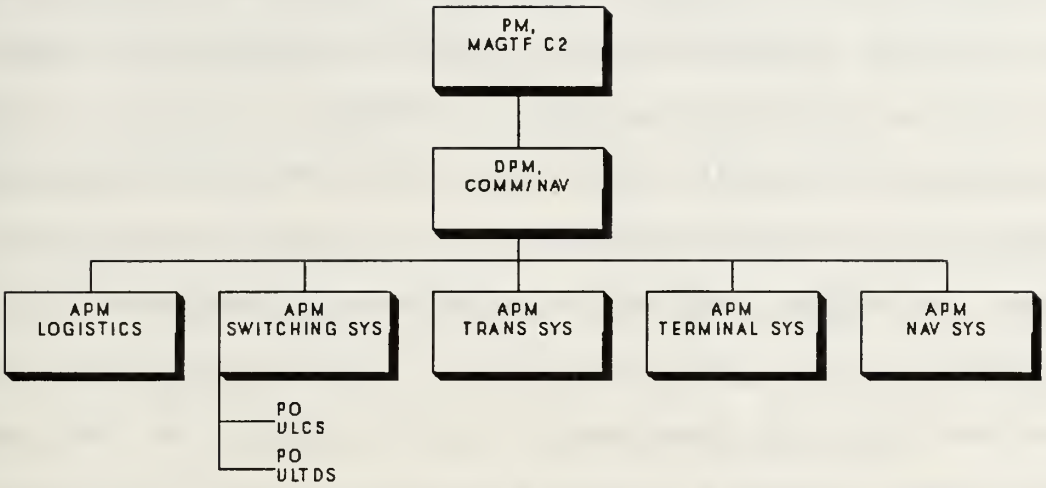

Figure 2

MAGTF C2 Office Structure

The Comm/Nav is an umbrella system which covers many other smaller systems or sub-systems. The DPM assigns assistant PMs to oversee the sub-system programs. This Assistant PM (APM) is responsible for various projects within the respective sub-system and reports directly to the DPM COMM/NAV. The cognizant APM in this case is the APM, Switching Systems. Each sub-system (i.e., Switching Systems) is made up of various different projects each led by a Project Officer (PO). The Orincon supported project is called Unit Level Circuit Switch (ULCS).

C. THE ULCS PROJECT

The ULCS is a family of tactical circuit switches designed to satisfy tactical user communication needs through and beyond the transition from analog switched systems to integrate, all digital secure systems. It is a fully automatic system with subscriber features common to modern electronic switching equipment, i.e., telephone switchboard. These switching systems are typically employed at the Regimental/Group level and above. The Marine Corps is the lead service for procurement of the ULCS. A full scale development contract for hardware was awarded to ITTACD in 1978, and the production contract was awarded to ITTACD on 30 September, 1986. The ULCS is a software driven communication switching system. The test bed organization responsible for the development/improvement of the system software is the Marine Corps Tactical Systems Support Activity (MCTSSA).

D. MCTSSA

MCTSSA is the Marine Corps' sole tactical software support activity. MCTSSA provides design, developmental, test, evaluation and life cycle software support for Marine Corps tactical Command, Control, Communications and Intelligence (C3I) systems that use embedded computers (i.e., ULCS). MCTSSA is a subordinate activity of MCRDAC and is located at Camp Pendleton, California. The MCRDAC organizational changes mentioned in the first section of this chapter had no direct impact on MCTSSA's mission statement or functions during that

time. However, due to the growth in the number of projects assigned to MCTSSA by MCRDAC, their responsibilities grew significantly. In the year 1989 MCTSSA's mission was to provide post-deployment support of tactical software and firmware for tactical data systems, designated by the Commandant of the Marine Corps and to serve as the Marine Corps' principal activity for the conduct of tactical software testing. Additionally, MCTSSA was to conduct testing of assault amphibians and associated equipment. The various functions of MCTSSA at that time were as follows:

* Provide post-deployment tactical software support for designated systems.

* Provide post-deployment tactical software configuration control and configuration status accounting for designated systems.

* Provide support to Fleet Marine Force units using tactical data systems in accordance with Marine Corps Order 4130.2.

* Determine the resources required to perform the assigned mission, including life cycle software support planning for designated systems.

* Evaluate designated systems under development to determine post deployment software supportability.

* Perform developmental testing and evaluation of designated tactical data systems and communication-electronics equipment.

* Provide hardware and software maintenance support of systems and equipment assigned for developmental test and evaluation.

* Assist in conducting operational testing and evaluation of designated tactical data systems and communication-electronics equipment when directed.

* Perform analysis of Unserviceable Equipment Reports, recommendations for equipment and software improvements,

and prototype Engineering Change Proposals for designated systems.

* Act as the Marine Corps Participation Test Unit for Joint Interoperability of Tactical Command and Control Systems (JINTACS) testing and participate in other intra-interoperability testing when directed.

* Conduct developmental testing and combined developmental and operational control of assault amphibians and associated equipment.

As time progressed, so did the mission and functions of MCTSSA. New projects requiring software development and support were added to the roles of MCTSSA. With the change in responsibility came the change to their mission statement. The current mission statement for the Activity's Table of Organization (T/O) reads:

> [To] Ensure integrity, operability, and supportability of assigned tactical software systems throughout their life cycle to sustain combat readiness in the Fleet Marine Forces (FMF). [Ref. 14]

Many of the functions of MCTSSA have evolved as well. The current functions are listed as:

* Provide technical and managerial support for designated tactical software systems throughout their system life cycle.

* Provide post deployment software support for designated systems.

* Provide acquisition support for tactical systems from the conceptual phase through production and deployment. Assist in the development of software requirements specifications to support and test hardware and software. Perform duties as the software Logistics Element Manager (LEM) on systems designated by MCRDAC.

* Certify the adequacy of software Quality Assurance (QA), Configuration Management (CM), test plans and procedures, adherence to specifications and suitability of software products for systems designated by MCRDAC Program Manager (PM).

* Develop, perform, and/or assist in the actual systems testing, test evaluation, and QA audits for systems designated by MCRDAC PM's.

* Provide software CM for designated software systems; to include identification, control procedures, recording and reporting changed to Computer Software Configuration Items (CSCI). Provide management of CM libraries.

* Provide software QA management of designated tactical software systems.

* Provide hardware and software systems engineering, integration, interface design and systems prototyping as directed. Perform software engineering design to improve readiness or enhance mission performance of systems designated by MCRDAC. Participate in the MCRDAC Configuration Control Boards (CCB) to implement changes.

* Act as the Marine Corps participation test Unit for the (JINTACCS) testing and participate in other inter/intra-operability testing when directed.

* Perform interoperability analysis functions and participate in the Marine Corps Interoperability Configuration Control Board (ICCB).

* Develop and maintain the Computer Resources Life Cycle Management Plan (CRLCMP), transition plans, CM and QA procedures/plans, and test plans for the tactical software systems the MCTSSA has been designated as the Software Support Activity.

* Perform analysis and recommendations of Quality Deficiency Reports, Unserviceable Equipment Reports, Program Change Requests, Product Improvement Programs, and Engineering Change Proposals/Software Engineering Change Proposal for designated systems. Designation may come from MCRDAC or Marine Corps Logistics Base, Albany, Ga.

* Provide contact teams as requested to assist the Fleet Marine Force.

The T/O for MCTSSA allows for 219 military and 198 civilian personnel, each assigned a specific position within the Activity. While Congress places a ceiling on the number of military and civilian end strength, this does not apply to

contract personnel. MCTSSA did not have, nor could they hire or recruit the personnel that would be required to support the ULCS effort and other tasks assigned by MCRDAC. It was for this reason that it became necessary to contract out for the necessary technical support. Since the tasks to be performed were not inherently Government functions, MCTSSA could contract out for the technical services.

MCTSSA is commanded by a Marine Corps Colonel and is comprised of five separate Divisions (including a Headquarters Div.), each with their own unique responsibilities. The Communication/Intelligence Systems Division (Comm/Intel) has the responsibility for the ULCS software development and support. The Orincon contract was originally developed to support the ULCS project. Due to the growth in the number of projects assigned to the Comm/Intel Division, the scope of the contract was eventually expanded to cover support of these additional projects as well. Other projects that were eventually supported by this contract are:

1. Unit Level Tactical Data Switch (ULTDS)
2. Fiber Optic Cable System (FOCS)
3. Communication Control (COMMCON)
4. Message Text Format Editor (MTF Editor)

E. THE CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE (COTR)

The COTR acts as the Contracting Officer's representative for technical matters, providing technical direction to the contractor regarding the SOW, issues technical task directives

when authorized, and monitors the progress and quality of contractor performance. Additionally, the COTR serves as the contact through which the contractor can relay questions and problems of a technical nature to the Contracting Officer. The COTR is not an Administrative Contracting Officer (ACO) and does not have the authority to take any action, either directly or indirectly, that would change the pricing, quality, place-of-performance, delivery schedule, or any other terms and conditions of the basic contract. In other words, the COTR does not have the authority to direct the accomplishment of effort which goes beyond the scope of the basic contractual statement of work.

The responsibilities of the COTR can be overwhelming. The duties and responsibilities that were assigned to the initial COTR for ORINCON contract were as follows:

* Issue Task Orders, if authorized in the contract.

* Signing all technical instructions to the contractor to assure all work is performed within the scope of the contract, and forward copies to the Administrative Contracting Officer. (Note: the term "technical instructions" is used to refer to technical instructions, technical direction and task assignments).

* Receiving and reviewing copies of all correspondence with the contractor concerning technical instructions to assure that the scope of work is not altered.

* Ensuring that all technical instructions or understandings reached with regard to the specifications or SOW are formalized in writing prior to the contractor commencing work on a particular task. In urgent situations, the contractor may be given oral technical instructions, but these must be immediately followed up in writing.

* Reviewing and evaluating contractor's proposals in order to furnish the Contracting Officer comments and recommendations.

* Assisting in negotiation of supplemental agreements incorporating contractor proposals.

* Attending post-award conferences when requested by the contracting officer.

* Assuring contractor's compliance with safety requirements.

* Ensuring that inefficient or wasteful methods are not being utilized on fixed price, cost reimbursement, time and material, or labor-hour contracts. Ensuring that percentage of work complete corresponds with percentage of funds expended.

* Ensuring that all Government technical interface with contractor goes through the COTR office.

* Ensuring that trip reports of all Government personnel visiting contractor's plant are forwarded to the Contracting Officer for placement in the contract file.

* Ensuring that a copy of all Government technical correspondence is forwarded to the Contracting Officer for placement in the contract file.

* Monitoring monthly invoices and comparing against monthly cost charts. Reporting any discrepancies so the Contracting Officer can arrange for an audit by the cognizant Defense Audit Agency.

* Alerting Contracting Officer to any potential contractual problems.

* Determining causative factors or any slippage in the performance schedule.

* Reporting slippage to the Contracting Officer and making recommendations for corrective action to eliminate the cause of the stoppage.

* Monitoring contractor's performance to assure that the contractor is complying with corrective action implemented by the Contracting Officer.

* Promptly furnishing the Contracting Officer any requests for change, deviation, or waiver (whether generated by Government personnel or contractor personnel).

Furnishing all supporting paperwork in connection with change, deviation or waiver in a timely manner.

* Maintaining close liaison with DCAA to Obtain results of floor checks performed by DCAA. Floor checks determine that direct charged employees are actually present and working on the job and that the time is properly charged. DCAA determines the frequency and scope of floor checks based on results of prior reviews, reliance that can be place on contractor's systems, and any other circumstances which would indicate a floor check is needed. COTRs are encouraged to participate in floor checks, and when deemed necessary to conduct floor checks on their own after consultation with DCAA. Floor checks should be conducted at least quarterly, and under conditions likely to represent the contractor's typical performance.

* Being responsible for inspection and acceptance of services.

* Avoiding any action with regard to the contractor or its performance that would result in the receipt of personal services. Personal service occurs when contractor personnel are used as if they were government employees.

* Avoid taking any action, either directly or indirectly, that could result in a change in the pricing, quantity, delivery schedule, or any other terms and conditions of the contract, or to direct the accomplishment of effort which would exceed the scope of the contract.

* Bring to the Contracting Officer's attention, via the Program Manager or code for whom the work is being performed, any inefficient or wasteful method being utilized.

* The contract will require that copies of all invoices be submitted to the COTR. COTR approval is required prior to payment. These should be reviewed for appropriateness and discrepancies should be brought to the Contracting Officer's attention.

* Maintaining a file for each contract of all technical instructions issued, a copy of all invoices, and a record of all deliverables received citing their disposition.

* Preparing a performance report to the Contracting Officer upon the conclusion of the contract, detailing compliance with requirements deliverables received for each technical instruction and any problems associated with the contract.

* Providing prompt notification in writing to the Appointing Official if, for any reason, tenure as COTR is recommended for termination and provide supporting rationale.

* Assuring that the ACO has adequate access to on-base contractor activity to adequately administer the contract. [Ref. 15:p. 37]

As one can see, the COTR has a myriad of responsibilities. If a person is assigned the COTR position as a secondary duty, it is unlikely that all of the tasks listed above will be attended to. In this case, the person who was assigned as the COTR, was assigned the primary duty of Project Officer for ULCS, within the COMM/INTEL division. In addition, the person serving in this position had no formal training as a COTR. This presented the atmosphere for the development of the problems that will be identified and discussed in the next two chapters.

F. THE PROCURING CONTRACTING OFFICER (PCO)

The purchasing branch assigned the responsibility for writing and awarding this contract was MCRDAC purchasing, located at the Marine Corps Base in Quantico, Va.

G. THE ADMINISTRATIVE CONTRACTING OFFICER (ACO)

The Defense Contract Administration Service Management Area (DCASMA) San Diego, was the office assigned as the ACO for the contract. [DCASMA has since been changed to DCMAO (Defense Contract Management Area Operations)]. Paragraph G.3 of the contract defines the Delegation of Authority for Contract Administration. This reads:

> The Commander, DCASMA San Diego, San Diego California is hereby designated as the authorized representative of the Contracting Officer for purposes of administrating this contract in accordance with FAR & DFARS 42.2 and 42.3 [Ref. 16]

According to the applicable sections of the FAR and DFARS listed above, there are 66 ACO responsibilities outlined. However, in a conversation with the Senior Administrator for DCMAO; the only responsibility placed in the hands of their office was to receive and make payments on contractor invoices [Ref. 17]. This task was outlined in the contract under a separate paragraph, G.1. Therefore, the DCMAO office would not be providing the necessary oversight as one would expect to find according to paragraph G.2 of the contract.

IV. THE EVOLUTION OF THE CONTRACT

In this chapter, the various phases of the contract cycle will be presented in a time-line fashion. This will complete the background necessary to present and analyze the problems encountered with the contract, which will be found in the next chapter. Since the contract case files contain volumes of information, only the relevant information pertaining to the phases will be presented here. The phases that were researched and therefore discussed here are:

1. Requirements Determination
2. Development and Submission of the Procurement Request
3. The Solicitation Process
4. Evaluation/Selection
5. The Award
6. Contract Administration

Most of the problems associated with the contract were encountered during the Contract Administration phase. This was due primarily to the type of contract used, and the parties interpretation of it.

A. REQUIREMENTS DETERMINATION

1. Background

The APM for Switching Systems, identified in the previous chapter, plans, directs, develops, and promulgates research, development, and acquisition procedures for the

ULCS, ULTDS, FOCS, COMMCON systems and other programs as assigned by appropriate authorities. In order to accomplish the missions assigned to the APM, it was necessary to ensure that the vital software support was being accomplished on the equipment assigned to the APM office during the development.

Originally, the ULCS project started out as a joint program between the Army and Air Force, with the Marine Corps being the lead Service. A decision was made to conduct all software support effort at the Army base in Fort Monmouth, New Jersey. Just shortly after this decision, around mid 1986, the Army decided to withdraw from the program. This action by the Army delayed the ULCS project considerably, since there existed a need to establish the software support element of the project concurrent with the development of the hardware. On realizing that Fort Monmouth would no longer be an option, the APM sought the next possible source for the software support team.

After reviewing the mission and functions of MCTSSA, MCRDAC decided that MCTSSA would be the organization to receive these tasks. However, as was mentioned before, MCTSSA did not have the Government personnel necessary to receive the software and all its related hardware support, once it was delivered from the manufacturer. According to a civilian working for the APM at the time, there needed to be a team of Government employees in place before delivery, "just to get up to speed", before any software maintenance effort could be

accomplished. This team would be responsible for setting up the facility, buying the right equipment, learning the machine language, and verifying Configuration Management [Ref. 18]. Therefore, work began to transfer the civilian billets that were established for this effort from MCDEC. In the interim, a GM 14 was hired as the Project Officer (PO) to head the civilian group that would become the software support element at MCTSSA. The PO worked together with the APM on determining the requirements for the software support effort, realizing that even with the extra civilian billets established at MCTSSA, they would need to contract out for the technical support required to achieve all tasks.

2. Determining the Requirements

In generic terms, there existed a requirement to provide management, hardware and software engineering, testing, and software maintenance/modification aspects peculiar to the equipment assigned to the APM. The general requirements, which were later incorporated into the SOW as Tasks, are listed below:

1. Configuration Management Support
2. Management Information System
3. Testing
4. Technical/Engineering Support
5. Verification/Validation Support
6. Publication Support

In addition to these areas, there existed the requirement to have the offeror's site located within one hour surface commute to MCTSSA. This was necessary in order to avoid lost work time due to travel and to eliminate excessive travel expenses incurred by the Government. There was no formal process involved in identifying these requirements.

3. Developing the SOW

Taking the requirements identified above, a rough outline of a SOW was prepared. Once this was accomplished, it was handed to another individual working out of the APM's office. This person was charged with reviewing the SOW for correctness and completeness. In a phone conversation the official claimed that there were two documents that were available to be used as a guide for developing the SOW. These were the OFPP pamphlet #4, "How to Write Performance Work Statements" and the MilHandbook 245B, "Preparation of Statements of Work for R&D, ..." However, these documents were not referred to when this SOW was developed. The official claimed that the best way to write a SOW, was to gather other SOWs that were written for contracts for similar efforts and use them as a source for the new SOW. Where exact wording didn't apply, it would be modified to pertain to the given situation. In other words, a form of "cut and paste" method was used to develop the fundamental contractual document used in a service contract. [Ref. 19]

4. Submission of the Procurement Request (PR)

Once the final draft was prepared, it was then submitted to the technical personnel working at MCTSSA for their input. Once reviewed, the SOW was returned to MCRDAC and finalized. It was then submitted to the Contracting Officer in the form of the PR, in **December, 1988.**

As time progressed, the Commanding Officer of MCTSSA and the PO worked to fill the job vacancies while they waited for the contract award. However, during this time it became necessary to commence work on the software maintenance, as equipment and software was being delivered to MCTSSA. At this point the APM needed to have a contract awarded quickly, or the project would fall behind schedule. The APM sought to accomplish the work during the interim by seeking the services of a contractor doing work under a totally separate contract at the Naval Oceanic Systems Center (NOSC). Incidently, ORINCON happened to be the contractor working under the NOSC contract and possessed the necessary expertise required to fulfill the APM's tasks. Directions were given to NOSC and work proceeded accordingly. However, as the APM found out, this was not an efficient way of procuring services since NOSC charged an additional three and one half percent (3.5%) on overhead, simply because they were managing the contract. In addition, the extra time required to submit various tasks through NOSC to the contractor resulted in undue delays.

B. THE SOLICITATION PROCESS

1. The CBD Announcement

A synopsis of this requirement was announced in the Commerce Business Daily on 25 August, 1988. The announcement read as follows:

> . . . L-ADVISORY & ASSISTANCE SERVICES in support of the Software Life Cycle Support System . . .. The Marine Corps has a requirement for software support services needed to aid the Asst. Program Mgr for Switching Systems under the direction of the Program Mgr for Communications/Navigation systems. Services needed shall include technical, analytical, logistic, financial, and program mgmt assistance, and nonpersonal services in support of specialized requirements inherent in the software main/mod/correction of programs and all aspects of Software life Cycle Support throughout the development, test, installation, fielding and deployment phases of the life cycle. Performance of tasks will be for the Systems Responsible Officer, Switching Programs (MCTSSA) . . .. [Ref. 20:p. 4]

2. Drafting the RFP

The contracting office had received advanced notice of the intention to submit the PR by the APM. This time-saving tactic enabled the contracting office to get an advanced start on the development of the RFP. Work on the RFP had actually be completed prior to receiving the finalized SOW from the APM. It was decided by the Contracting Officer in the early stage of RFP development that this contract would be 100% set aside for small business, and that the contract would be a **Cost Reimbursement Contract.** In a **Determination and Findings (D&F)** submitted by the Contracting Officer, justification was given for the cost type contract accordingly:

> Specific tasks shall be assigned and may include any task or combination of tasks described in the SOW. The tasks

> represent what can be anticipated and are intended to convey the general scope and depth of the requirements rather that specifics . . .. Due to the uncertainties involved in contract performance, it is not possible to estimate costs with sufficient accuracy to use any type of fixed price contract. [Ref. 21:p. 1]

Section L of the RFP consisted of the instructions, conditions and notices to offerors. In addition to the normal instructions usually found in this section, the drafter included a set of situational problems. These problems were designed to provide scenarios for the contractors to respond to. These responses would be evaluated in the Evaluation/ Selection phase. An example of one of the situational problems is:

> A tactical system which has the potential of causing loss of life is currently undergoing a modification which will affect 25 percent of the system's capabilities. The software is written in a unique language for which no coding standards exist. Specify techniques beyond walkthroughs, reviews, audits, and test that you would apply to evaluate the software. How would you develop evaluation criteria? [Ref. 22:p. 8]

Section M of the RFP included the Evaluation factors for award. Technical evaluation criteria was approved as part of an Evaluation Factors Business Clearance. The weighting of technical versus cost was 80% and 20% respectively. According to the NARSUP 15.605(90), cost must carry a weight of not less than 40% unless thoroughly justified. This was justified by APM in the document listed above. The APM determined that it was necessary to weigh technical over cost/price in this manner due to the highly technical nature of software

development and the need for quality, and qualified personnel up front. In the justification, the APM claimed:

> Lessons learned have repeatedly proven that software development and post deployment software support are extremely sensitive to the quality of the workforce performing the work . . .. The software industry is currently facing a shortage of qualified personnel. This makes quality personnel extremely valuable as well as more expensive than unqualified personnel. A proposal which is less expensive, though technically acceptable can be indicative of less qualified personnel. [Ref. 23:p. 1]

The final draft of the SOW was received from the APM and the RFP was released on 12 Jan, 1989. The date for closing the offer was originally given as 24 February but was extended to 24 March, 1989 with the first modification to the solicitation issued 15 Feb, 1989. A second modification was issued to amend the solicitation in order to incorporate changes that were brought about by questions that were raised during the pre-proposal conference. This will be the subject of the next section.

3. Pre-proposal Conference

A pre-proposal conference was announced on 18 January 1989 to all the bidders who responded to the CBD by requesting the solicitation package. The announcement stated that technical and contract requirements were to be discussed at the conference. Additionally, prepared answers to any previously submitted questions would be delivered to those attending the conference. There would also be a question and answer period during the conference to field any new questions that were raised.

Out of 117 companies on the mailing list who received the RFP, only 17 showed up at the pre-proposal conference. Review of the questions submitted to the PCO prior to the conference revealed that questions concerning the 10,000 man-hour level of effort listed in the RFP were a common theme. In response to one question, the answer offered on the prepared sheet was as follows:

> The most likely level of effort, and therefore the level of effort used for evaluation is 10,000 hours for each of five years that will include a base year and four (4) option years. The offeror shall propose an appropriate mix of personnel based on a level of effort of 10,000 man-hours per 12 month period. The level of effort contracted for may actually vary from 4,000 man-hours to 24,000 man-hours for each 12 month period under contract. [Ref. 24:p. 1]

The answer presented in the quote above was referred to as the answer for several other questions concerning the proposed level of effort. For example, one of the most direct questions pertaining to this issue was asked by one party during the conference. He asked:

> Is the 10,000 man-hours a ceiling requirement? Will the 10,000 hours increase, and if so, by how many? How much of increase can there be and still be within the scope of the contract? Please clarify. [Ref. 24:p. 1]

Once again, the answer that was given above, was referred to (in a formal response mailed out to the attendees after the conference). However, this did not address the area of Scope of Contract as asked. The issue of the level of effort was brought up again during the conference. Initially, a reply was given that the 10,000 level could go up, but not by more than 5,000 man-hours. In addition, attendees were told that

the level of effort could not double without increasing the SOW. These responses were superseded by the formal written response to the question, but still, this did not address the issue of Scope of Contract. This will be presented in the next chapter as one of the prevailing issues of this contract, since the contract was immediately modified to well over any amount eluded to during the conference.

C. EVALUATION AND SELECTION

1. Evaluation

Out of the 17 firms that attended the pre-proposal conference, only two responded to the solicitation. These were, the ORINCON corporation, and the Computer Systems Development Corporation (DSDC). A technical evaluation board (TEB) was convened at MTCSSA and consisted of a chairman from the APM's office and three other members who were employees of MCTSSA. The proposals were evaluated against the evaluation criteria identified in Section M of the RFP. This section indicated that the contract award would be made to that offeror whose proposal was determined to be the most advantageous to the Government, cost and other factors considered. In addition, they were to be evaluated by adding the offeror's proposal on option quantities to the basic quantities for the first year.

The evaluation was conducted in two areas. Area I consisted of the responses to the situational problems. Area II consisted of evaluations on Corporate Experience, Personnel

Qualifications, SOW Tasks Execution, Management Structure, and Tools and Techniques. A numerical scoring system was used during this evaluation, with the corresponding area given either an outstanding, excellent, good, fair, or unacceptable, depending on where the score fell. For instance, a score of 101 to 125 would be given an outstanding, 76-100 an excellent, and so on.

2. Selection

The evaluation found CSDC's proposal to be unacceptable. CSDC failed to demonstrate an understanding of, and experience in, software support environment with their responses to the situational problems, the discussion of the SOW tasks, management structure, and the qualifications of their personnel. In addition, they failed to meet the requirement of having a site located within one hour surface commute to MCTSSA. While CSDC's corporate headquarters is in Virginia, CSDC claimed to have an office in the Camp Pendleton area but failed to establish the relationship between this office and the corporate headquarters. The impression of the board was that most of the support would be conducted out of the headquarters and not from the local office, as was required by the proposal. The personnel that were identified by CSDC were contingency hires and it was determined that if they could not execute the hiring of these personnel, there would be serious deficiencies in qualified personnel to provide the Government support.

ORINCON's proposal on the other hand was found to be fully acceptable. The board found that ORINCON had the capability to far exceed the minimum performance expectations under the contract by demonstrating that they had the knowledge, background, and personnel to provide the required support services needed. The immediate capability to support MCTSSA was critical as the ULCS program neared full production, with fielding of all systems rapidly approaching.

CSDC was removed from consideration for contract award upon recommendation from the TEB. The Contracting Officer was left with only one responsive and responsible offeror.

D. THE CONTRACT

After considering the question of what type of contract to use on this procurement, the Contracting Officer, decided that it would be a Cost-Plus-Fixed-Fee (CPFF) contract and justified it with the D&F mentioned previously. According to the MCRDAC Contracting Officer, this was the first time that a CPFF contract was used for this type of service. In the past, the office had used Basic Ordering Agreements (BOAs) and Indefinite Quantity Contracts (IQCs). [Ref. 25]

The CPFF contract was awarded on 3 July, 1989. The negotiated settlement for deliverables 0001 through 0003 of the contract were as follows:

ITEM 0001	**10,000 MANHOURS**	**$ 347,554.00**
	FIXED FEE	**27,804.00**
ITEM 0002	**MATERIALS**	**90,000.00**
ITEM 0003	**TRAVEL AND PER DIEM**	**80,000.00**
	TOTAL ESTIMATED CPFF	**$ 545,358.00**

Items 0004 through 0006 pertained to technical data for which no specified price was negotiated. Items 0007 through 0012, 0013 through 0018, 0019 through 0024, and 0025 through 0030 represented the four option years on items 0001 through 0006.

This contract would be incrementally funded as stated in the **Limitation of Government Obligation** clause found in Section H of the contract. An initial amount of $235,000 was available immediately while additional funds were to be applied using modifications to the basic contract. Contractor performance would be initiated by Technical Task Directives (TTDs) submitted to the contractor by the COTR. As long as there was money available, the COTR could issue TTDs to intitiate contractor performance. More will be discussed on this issue in the next chapter.

V. IDENTIFICATION AND ANALYSIS OF THE PROBLEMS

The most significant problems identified in this case study were revealed during the post-award/contract administration phase. These problems can be traced back to the **SOW, the type and wording of the contract, and the lack of a sufficient plan for contract administration.** These three causes are found to be a recurring theme throughout this chapter. While it would be difficult to forsee every possible problem associated with service contracting, it is felt that the problems identified could have been avoided through a reasonable amount of effort during the early stages of the contract cycle.

There are four general areas in which the major problems were identified. These are categorized as:

1. Scope of the Contract
2. General Contract Administration
3. Material Purchases (Contracting out Contracting)
4. Personal Services

A. SCOPE OF CONTRACT

Out of all the problems listed above, this one had the greatest ability to affect the contract, had the initial offerors become aware of the situation and filed a protest. In a letter from MCTSSA to MCRDAC, sent only one month after award, MCTSSA personnel requested that the man-hour estimate,

listed under item 0001 of the contract, be increased to 60,000 hours, up from 10,000. This represented an increase of 50,000 hours or 500%. In addition, it was requested that the materials listed under item 0002 be increased from $90,000 to $1,250,000 and travel under item 0003 be increased from $80,000 to $400,000. These increases were approved by a modification to the contract dated 6 September 1989. This was just over two months after contract award. As a result of the increase in man-hours, the estimated associated cost was increased from $347,554 by $1,453,796 to a new estimated cost of $1,801,350. Since the Fixed Fee for worked performed under this contract was negotiated at a percentage of estimated labor costs, it too would increase. The total Fixed Fee was thereby increased from $27,804 by $116,304 to a new total Fixed Fee of $144,108. [Ref. 16:p. 2]

The controversy over this particular modification concerns the timing of it, as well as the actual level of the increase itself. In addition, this particular modification was minor compared to other modifications that were eventually approved during the performance of the contract. For example, the initial contract was funded at $545,358.00, but through subsequent modifications, it was eventually increased to approximately $4.6 million, primarily due to man-hour and material increases.

Several questions come to mind when considering the nature of this particular problem. These are:

1. By what quantity could a Contracting Officer increase the estimated level of effort and still remain within the scope of the contract?

2. How many other offerors would have submitted bids if the estimated hours were listed at 60,000 in lieu of 10,000?

3. Was the initial increase in the man-hour estimate brought to the attention of the Contracting Officer before award? If so, why was the contract awarded; if not, why wasn't it?

In response to the first question, it is first necessary to define **Scope of Contract**. The scope of a contract is basically the range or limit of work that was originally and mutually agreed upon by the parties of the contract when the contract was awarded. A contract modification that is specifically authorized by the contract is considered to be within the scope of the contract. The Changes Clause in a contract is the normal means for implementing contract changes in this case. Changes that are considered within the scope of the contract are changes to drawings, designs, and specification; method of shipment or packing; place of delivery; services to be performed; time of performance; and place of performance.

Changes outside the scope of the contract are called **Cardinal Changes**. The changes clause does not authorize a cardinal change. A definition from the Claims Court is as follows:

> A cardinal change occurs when the Government effects an alteration in the work so drastic that is effectively requires the contractor to perform duties materially different from those originally bargained for. By definition, then, a cardinal changes is so profound that

> it is not redressable under the contract, and thus renders the Government in breach. [Ref. 26:p. 94]

Usually, when the Government orders cardinal changes, the party to disagree and thus protest the change is the contractor. However, in this situation there was no dispute between the Government and contractor, and the latter agreed to perform the change. For this situation, a different test can be applied, especially when other vendors protest the change. Here, the Comptroller General must determine if the modification materially changes the contract for which competition was held [Ref. 26:p. 95]. If it is found that this be the case, then the Government would have to compete the new requirement.

When considering this, and comparing it to the immediate situation, it appears that by increasing the level of effort and material amounts to the extent that was actually done, the **scope** of the contract has been breached. This is emphasized by a letter from Assistant Counsel to Counsel concerning one modification:

> . . . at some point, the increase in the **quantity** (not the nature) of the work performed under the contract will go beyond the scope of the contract. [Ref. 27:p. 2]

When considering the second question listed above, several important points come to mind. First, the question of hours was asked in the pre-bid conference by one of the potential offerors. However, no legitimate response was given. The lack of an appropriate response from the Government raises

some concern. This point is emphasized by the same memo from counsel mentioned above:

> Would a reasonable offeror have anticipated that the work performed under the contract would be six times what was reflected in the RFP? Ten times? Twenty times? I think we should keep this in mind when dealing with future actions on this contract. [Ref. 27:p. 2]

It would appear that there would have been a greater response to the RFP, had other companies known that this contract would eventually call for a considerably greater amount of effort, and thus become more lucrative. This, in turn, might have resulted in a better price to the Government through increased competition.

The second point to consider is the risk of protest to which the Government was subjected. Although there was no protest filed against the award of this contract, it was a real possibility. The APM was in a position that called for immediate support of the program. Any protest action resulting in the delay of contractor performance would have been detrimental to the program. To determine whether or not any of the non-responding contractors would have protested, the researcher considered contacting a few of them, but was strongly urged not to by a Government employee.

Considering that a delay in the procurement action would seriously impact the program, it would be easy to assume the answer to the third question. That is, the APM would not want to bring knowledge of an increased requirement to the attention of the Contracting Officer before award for fear of

having it held up for recompetition. In reality, this seems plausible. In other words, it could have been the intention of the APM to purposely withhold the knowledge of the increasing requirements from the PCO in order to avoid delaying the award of the contract. Once the contract was in place, the APM could simply have it modified to allow for the support of the increasing requirements. As was mentioned in the third chapter, this contract was originally let to support the ULCS project, but additional projects requiring the same type of support were added to the roles of the APM. Due to this, the estimated level of effort increased, and the APM sought to have software support for these projects conducted in accordance with this contract. Since the contract was a cost reimbursement type, this would not be a problem, as long as there were funds available and the action requested was consistent with the general tasks outlined in the SOW.

The unusual characteristics of this case which led to the researcher's opinion that the scope of the contract was violated, are summarized as follows: 1) This is a cost reimbursable contract for which there is no limit to the number of hours it can cover. 2) The COTR can submit TTDs as long as there is funding available, and as long as the task is covered by the SOW. This was not difficult since there was always enough money, and the SOW was vague enough to cover just about any software related task one would venture to write. 3) Scope of Contract became an issue because the

contract was utilized as an Indefinite Delivery contract instead of a Cost-Plus-Fixed-Fee contract. Eventually, the increase in quantity of work performed would go beyond the scope of the contract, simply because of the way it was designed. As a result, the new requirements should have been recompeted.

B. GENERAL CONTRACT ADMINISTRATION

Proper contract administration is essential for ensuring that both the Government and the contractor meet the terms of the contract. In addition, it is equally important for ensuring that both parties observe all the laws and regulations pertaining to Government contracts. One way for ensuring the success of this area is to establish a **contract administration plan**. According to a Federal Contracts Report regarding the latest OFPP Policy Letter, 91-2, a nonexistent or inadequate contract administration plan was one of the main reasons given for the cause of common problems found with service contracts [Ref. 2:p. 501].

Careful review of the contract files and interviews with various personnel revealed that there was not a formal contract administration plan for the ORINCON contract. It is the researcher's opinion that this led to the following problems, which are somewhat related:

* Insufficient guidance/supervision of COTR
* Insufficient training of COTR
* Improper contractor invoicing

1. Insufficient Guidance/Supervision of COTR

As was addressed in the previous chapter, the method established for initiating contractor performance was the Technical Task Directive (TTD). The COTR had the power to initiate and approve the TTD. Whenever a new requirement developed, all the COTR had to do was to issue the TTD to the Contractor, citing the applicable SOW task. The Contractor would respond to the TTD by providing an estimate of the costs to perform such a task. The COTR would then have the ability to obligate the Government for funds covering the TTD. Because of this, the COTR was given enormous power under this contract. To complicate matters, the organizational structure of the COMM/INTEL division of MCTSSA was such that the COTR reported to the Division Director as the ULCS Project Officer (PO). This represented an extraordinary conflict of interest. The ULCS Project Officer was being evaluated as a PO and not as a COTR, therefore, it was in the COTR's best interest to ensure that the mission was accomplished. Being both the COTR and the PO, made it easy to ensure that any requirement this person had as a PO would be processed without having to be screened by cognizant contracting personnel outside the operational chain of command.

Because of this relationship, careful guidance/supervision of the COTR was necessary in order to ensure that sound contract administration procedures were followed, and that as a PO, the individual was not using the contract

inappropriately. Due to the geographical separation between the Contracting Officer and MCTSSA, DCMAO San Diego was assigned the CAO responsibilities according to the contract, but did not provide any type of administrative cross-check on the TTDs executed. They simply certified TTDs for payment. In effect, the COTR, who was not trained in contracting, had unsupervised control when executing the deliverables on this contract.

2. Insufficient Training of COTR

The amount of success that an individual realizes in the day to day performance of his/her duties, is directly proportional to the amount of training that person receives. In order for an individual to function both efficiently and effectively as a COTR, it is paramount that the desired level of training required of such a position is achieved. In addition to possessing a solid technical background in the area for which the services are to be provided, the COTR must also be an experienced business manager. Formal training coupled with contract management experience cannot be overemphasized. The more complex the service contract, the more experience the COTR should have. The researcher feels that the while the COTR did possess the level of technical expertise required, the official did not have the necessary contract management experience. In a discussion with the COTR, it was found that this person had not received even the minimal amount of training for the position, the Department of

the Navy's COTR course [Ref. 28]. If there had been an adequate plan for contract administration, there would have been provisions made to ensure that an individual with proper contract experience and training was assigned as the COTR.

3. Improper Invoicing

Due to the lack of experience in handling contracts of this nature, the COTR was not proficient in processing contractor invoices in the manner that is required under a cost type contract. In this case, invoices were not itemized by the contractor for submitted expenses such as travel and certain equipment purchases. [Ref. 29]

C. MATERIAL PURCHASES

This section deals with three issues, which are:

1. The types and amounts of material purchased under this service contract,
2. The method by which it was obtained,
3. The relationship of the problem to the contract.

Under normal circumstances, service contracts permit the use of contractor purchased supplies to be used during the performance of the contract. These supplies are often referred to as consumables and are allowable costs for reimbursement under cost type contracts. However, there are some instances where the nature of the work to be performed requires the use of capital equipment, and other assets, in addition to consumables. To the maximum extent possible, the U.S. Government should provide these assets to the contractor

as **Government Furnished Equipment** (GFE). By doing so, the Government reduces the overall costs of the contract by avoiding the use of contractor owned equipment.

In some instances, the Government has existing equipment on hand to furnish to the contractor, in other cases it must be procured first. There can also be circumstances when, as a result of a Government issued task, the contractor determines that it must procure the necessary hardware for its use in performing that task. The Government can then permit the contractor to purchase the equipment by issuing a modification to the contract. The contractor however, is required to follow Government regulations and is held to the same restrictions pertaining to competitive procurement when it purchases the equipment for the Government. Once purchased, the **Contractor Acquired Property** is charged against the contract and is utilized as GFE during the life of the contract.

During the performance of the ORINCON contract, there were two modifications increasing the amount authorized under Contract Line Item Number (CLIN) 0002, Materials. The original amount negotiated for CLIN 0002 was $90,000, but was subsequently increased to $2.3 million to allow the contractor to purchase hardware for the Government.

One of the most significant purchases was the result of a TTD directing the contractor to purchase and deliver four (4) Intelligence Analysis Center Modification Kits. This purchase

alone accounted for $1.2 million of the increase under CLIN 0002. As a result, there were additional costs associated with allowing the contractor to purchase this equipment. These costs are reflected by sales taxes and material handling charges that were eventually passed on to the Government. These charges would not have had to be paid if this equipment had been purchased by the Government.

The circumstances leading to the eventual approval of this purchase were embodied in the fact that both PCO and Government Counsel felt the requirement fell within the tasks outlined in the SOW. Counsel responded to the PCO's question of whether this fell within the scope of the contract by stating:

> [The contract] requires modification of hardware and software, hardware and software system analysis and the installation and verification of hardware and software "functionality". I think this means the contractor has to make any changes to the hardware and software which are required to make the developed systems work. [Ref. 27:p. 1]

Considering that both the PCO and Counsel had difficulty applying meaning to the SOW, it is evident that the document was not self-explanatory, thus it had the potential to cause misunderstanding.

Another controversial issue regarding equipment purchased as a result of a TTD, surrounded the purchase of computer hardware manufactured in Japan by the NKK Corporation. By proceeding with this procurement, the contractor violated the

provisions of the Buy American Act. Specifically the Act states:

> The Buy American Act requires that only domestic end products be acquired for public use, except articles, material, and supplies:
>
> 1. For use outside the U.S;
> 2. For which the cost would be unreasonable, as determined in accordance with 25.105;
> 3. For which the Agency Head determines that domestic preference would be inconsistent with public interest;
> 4. That are not mined, produced, or manufactured in the U.S. in sufficient and reasonable available commercial quantities, of a satisfactory quality (see 25.108); or
> 5. Purchased specifically for commissary resale. [Ref. 6:p. 25-1].

In addition to the hardware purchased from NKK, the TTD specified purchasing equipment from the Toshiba Corporation. Toshiba is on the U.S. Government's debarred list of contractors from which the Government cannot procure equipment. This policy is specified in the **Multilateral Export Control Enhancement Amendments Act (P.L. 100-418)** of August 23, 1988, and implemented by FAR 25.1002, 52.225-12 and 52.225-13.

These particular problems are directly related to the Material clause found in Section H of the contract. Basically, this clause allows the contractor to be reimbursed for material specifically identified in each TTD, but there was nothing governing the type and amount of materials to be purchased. Because the Materials Clause was so open-ended, it allowed the Government to use the contract as a buying

service. In addition, there are individuals who felt that it was the intent of the Agency to circumvent Government procurement channels by having the contractor purchase the equipment. This in effect violated the principle of OMB Circular A-76. By having the contractor purchase equipment on a regular basis, the Agency was effectually contracting out an inherently Governmental function. Also, once again the issues that were discussed in part A concerning cardinal changes and scope of contract apply here as well.

D. PERSONAL SERVICES

All service contracts can be categorized as either Personal Services or Nonpersonal Services. Nonpersonal services contracts are those contracts in which the personnel performing the service are not subject to the supervision and control of the Government. According to the FAR, Part 37, "'Personal services contract' means a contract that, by its express terms or as administered, makes the contractor personnel appear, in effect, Government employees." [Ref. 6:p. 37-1] Therefore, with limited exception, personal services contracts are not permitted.

In accordance with the FAR, all service contracts must have a **Determination of Nonpersonal Services** (DNS) conducted prior to award of any such contract. On this contract, a DNS was submitted by the APM and certified by the Contracting Officer who determined it to be in compliance with the FAR. Despite this, there were two instances of personal services

identified during this analysis. The first one being the case of a contractor employee who ordered, tracked, and receipted for Government property. In addition, Government property accounting records were being maintained by this individual. This person was hired to provide administrative support to the contractors on sight, but ended up performing inherently Governmental functions, and taking direction from Government employees. The second case consisted of a contractor employee who actually served as a secretary for the Government, performing all the usual tasks of a secretary and taking direction from a Government employee. [Ref. 29]

The problem of personal services, as it applies here, can be attributed to two of the areas identified at the beginning of this chapter; lack of proper contract administration and a poorly written SOW. It is evident how the lack of proper administration would allow the Government/contractor relationship to slip into a personal services mode. But what is not so clear is how this problem could be attributed to the SOW. More importantly how can this be avoided when developing the SOW? One would think that if personal services are prohibited, the simple elimination of any such task from the SOW should be enough to avoid encountering this problem. But therein lies the difficulty. It is not readily apparent what task may constitute personal services in all instances. As CDR Rodney Matsushima put it in his thesis,

> The distinction between personal and non-personal services is not always clear and many factors are considered in

reaching a determination as to whether a particular service, situation, contract, or contract performance is personal or non-personal in nature. [Ref. 12:p. 13]

The case of the secretary was a clear violation of the FAR. No additional amount of effort placed on writing the SOW could have prevented this, however, extra measures could have prevented the case of the other contractor employee performing personal services. As was mentioned, the tasks in the SOW were written in a very general manner, to the point of being vague. This loophole enabled the contractor to hire an individual for administrative support purposes under the guise of the necessity to accomplish a vaguely written task. Once hired, this person became available to perform other functions under the direction of Government personnel. If the Job Analysis function was performed in accordance with the directives, and with proper supervision during contract administration, these problems could have been avoided.

VI. CONCLUSIONS AND RECOMMENDATIONS

A. GENERAL

As was indicated in the introduction to this thesis, many problems experienced during contract administration have their roots in the pre-solicitation phases of the contract cycle. Most of these problems can be avoided by planning properly, developing a proper SOW, using the appropriate type of contract, and by ensuring that mistakes made in the past are not repeated. The basic thrust of this thesis has been to analyze the contract in order to identify and analyze the main difficulties that were experienced, then provide recommendations for future solicitations in hopes that they will not be repeated.

This chapter will begin by addressing the Primary and Subsidiary research questions, and making recommendations based on the findings. The chapter will conclude by suggesting areas for further research.

B. PRIMARY QUESTION

1. What were the principal problems experienced in the pre-solicitation, award, and post award phases of the ORINCON service contract for the Marine Corps and how might these problems be avoided in future service contracts?

This case study identified three pre-award causes that led to several post-award difficulties. These were: 1) that the SOW was insufficiently prepared which led to the parties' misinterpretation of it, 2) that a poorly written, unrecognized, hybrid contract was used, and 3) the lack of a good contract administration plan.

The post award problems that came about as a result of one or more of the causes listed above are identified as: 1) modifications constituting cardinal changes beyond the scope of the contract, 2) poor guidance/supervision of the COTR, 3) material purchases that violated regulations and caused management problems, and 4) the problem of personal services.

2. Recommendations

a. SOW

(1) Develop the SOW in accordance with the guidelines outlined in Chapter II of this thesis, wording it in such a way that only one interpretation of it is possible.

(2) Use a team approach involving all parties concerned with contractor performance. (See Subsidiary question #2, below).

(3) Utilize a draft solicitation to assist in refining the SOW.

(4) Allow sufficient time for proper planning and the completion of the above.

b. The Contract

(1) One problem with this CPFF contract was that it was not constrained by a minimum or maximum number of man-hours. Therefore it is recommended that minimum and maximum limits be established on the number of manhours to be performed. Any requirement that would exceed the maximum limit would have to be recompeted. There is a bill proposed by U.S Representative John Conyers, Jr. that would establish controls on substantial modifications of contracts. According to the proposal, any modification that would provide substantially more materials or services than called for in the original contract, would be held up until the Agency issued a solicitation for proposals to determine if other options would be more advantageous to the Government. [Ref. 30:pp. 2-3]

(2) Use individual delivery orders to initiate contractor performance in lieu of TTDs. These delivery orders would be initiated by the COTR, but would be negotiated by the Contracting Officer.

(3) Include an invoicing clause that directs the contractor to break out the invoices by task. In addition, the contractor must invoice everything that is purchased under the contract so the COTR has a means to maintain control. Ensure that every invoice is reviewed by the appropriately assigned CAO.

(4) Establish limits on the types and amounts of material to be purchased under this contract as well as citing

the applicable clauses for the Buy American Act, and Multilateral Export Control Enhancement Amendments Act. In addition, include references to rules pertaining to Contractor purchase of ADP equipment as outlined in FIRMR 201-01.103.

(5) A Personal Services Clause should be included in the contract, identifying the nature of such services and their prohibition from Government contracts.

c. Contract Administration Plan

(1) Develop a plan to ensure proper selection of the COTR. The COTR should have sufficient experience in the administration of contracts of this nature.

(2) The plan should provide for continuous COTR training, including the requirement to read and maintain the new GSA handbook titled **A Guide For Contracting Officer's Technical Representatives**. In addition, the plan should provide a system of checks to avoid conflicts of interest within the Government organization, such as the COTR working for the Project Officer.

(3) The Plan should provide for proper control and accountability of GFE purchased by the contractor in accordance with the contract.

(4) The Plan should provide a system for reviewing positions held by contractor employees, and their associated responsibilities, to ensure that personal services are not being performed.

C. SUBSIDIARY QUESTIONS

1. What is a Services Statement of Work and how is it prepared?

The SOW and how it should be prepared was addressed in the second chapter. Once again the recommendations for this SOW are listed above.

2. What were the requirements, who determined them and how were they developed for this contract?

The requirements were identified in Chapter IV, on page 35. The researcher feels that the requirements were properly identified but not properly incorporated into the SOW. It is recommended that a Services Planning Team be developed early as soon as the need for the service is identified. This team, headed by a Senior COTR, will consist of the APM and other technical personnel, Contracting Officer, Financial/Cost Analyst, Market Research specialist, and finally legal counsel. Involving this team in the requirements determination process early on will enable a smooth transition into the development of the SOW.

3. What was the overall plan (including milestones) for this contract and to what extent did actual execution of the contract meet this plan?

There was no formal plan for this contract. There was an attempt to have the contract awarded by January, 1989, however the contract was awarded on 3 July, 1989. It is recommended that a formal plan with milestones be established

by the Services Planning Team mentioned above, in order to assure timely and effective execution of all the phases of the contract cycle.

4. How effectively were modifications implemented on this contract?

As on 1 July, 1991, 19 modifications to the contract had been conducted. For the most part these modifications were initiated to reflect additional funding that was being incrementally applied to the contract. However, two of the modifications concerned man-hour and material increases the researcher felt were cardinal changes, and thus outside the scope of the contract.

It is recommended that no modification be performed if it could reasonably be construed as being outside the scope of the contract.

5. What changes could be made to future solicitations for services contracts to enhance effectiveness?

The researcher strongly recommends using a draft solicitation to incorporate recommendations from potential offerors. The extra time required to send out a draft would be offset by the time saved from the avoidance of problems associated with a faulty solicitation.

D. RECOMMENDATIONS FOR FURTHER RESEARCH

1. Using surveys, seek input from the contracting community to develop a proper contract administration plan that could be implemented on service contracts.

2. Develop procedures for establishing the Services Planning Team as well as developing a guidebook for the team to use to put an effective contract together.

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